

REMARKS

The foregoing amendment and the following arguments are provided generally to impart precision to the claims, by more particularly pointing out the invention, rather than to avoid prior art. Claims 1-21 have been rejected. Claims 3, 6-7, 10-11, 17 are cancelled. Claims 22-24 have been newly added. The response amends claims 1-2, 4-5, 8-9, 12-15, 16, 18-19, and 21 leaving for Examiner's consideration claims 1-2, 4-5, 8-9, 12-14, 16, 18-19, and 21-24. Reconsideration and withdrawal of the rejections set forth in the Office Action dated July 9, 2007 are respectfully requested. Support for the amendments is found in the specification, the drawings, and in the claims as originally filed. No new matter has been added.

Allowable Subject Matter

Claims 13-15 have been rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph. Thus, the withdrawal of the rejections under 35 U.S.C. 112, 2nd paragraph is respectfully requested. Applicant respectfully submits that claims 13-15 are thus allowable.

Objections

Drawings

a. The Examiner has objected to Figures 3-4 as being inconsistent with the corresponding detailed description. Without admitting to the propriety of the Examiner's objection, the corresponding detailed description has been amended to be consistent with the corresponding detailed description.

b. The Examiner asserts that Figure 5 should clearly show the modulus control circuit 158 providing a control signal to divider 150. Applicant respectfully submits that Figure 5 shows an example of the modulus control circuit 158 providing a control signal to the divider 150 through the divider 152.

c. The Examiner has further objected to the drawings under 37 C.F.R. 1.83(a). Applicant respectfully submits that at least Figure 7 shows each and every feature of the circuitry for receiving and circuitry for recovering as recited in claim 14.

The withdrawal of the objections of the drawings is thus respectfully requested.

Specification

3-4. The Examiner has objected to the abstract of the disclosure because it allegedly refers to purported merits of the application. Without admitting to the propriety of the Examiner's objection, applicant respectfully submits that the corresponding abstract has been amended to further provide a concise statement of the technical disclosure of the patent and further includes that which is new in the art to which the disclosure pertains.

5. The Examiner has objected to the disclosure due to a number of informalities. Applicant submits that the disclosure has been amended to correct the informalities.

6. The Examiner has further objected to the specification as failing to provide proper antecedent basis for the claimed subject matter. Applicant respectfully disagrees. However, without admitting to the propriety of the Examiner's objection, applicant submits that claim 11 has been cancelled and claim 21 has been amended in such a manner such that the Examiner's objection is no longer relevant.

The withdrawal of the objections of the specification is thus respectfully requested.

Claims

7. The Examiner has objected to the following claims because of the alleged informalities.

a. The Examiner asserts that in claim 14, line 15, "received timing data" should be "recovered timing data". Applicant respectfully disagrees. Applicant further submits that the claim 14 should recite "recovering received timing data".

b. Applicant has amended claim 14 to recite "receiver circuit" based on the Examiner's recommendation although without admitting to the propriety of the Examiner's objection.

c. Applicant has amended claim 15 to according to the Examiner's objection although without admitting to the propriety of the Examiner's objection.

d. Claim 16 has been amended in a manner such that that the Examiner's objection is no longer applicable.

e. Claim 17 has been withdrawn without prejudice.

f. Claim 18 has been otherwise amended to be consistent with the format of method claims, although without admitting to the propriety of the Examiner's objection.

g-h. Claim 19 has been amended in a manner such that the Examiner's objections are no longer applicable.

The withdrawal of the objections of the claims is thus respectfully requested.

35 U.S.C. §112 Rejections

Claim 14

The Examiner has rejected claim 14 under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. Claim 14 has been amended to comply with the enablement requirement.

Claims 1-4, 9-11, and 13-21

The Examiner has rejected claims 1-4, 9-11, and 13-21 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1-3, 8-9, and 16, the specification at page 6, lines 25-26 has been amended such that that it is consistent with claims 1, 8, and 16, though without admitting to the propriety of the Examiner's rejection. Claims 3, 10-11, and 17 have been cancelled without prejudice. Claims 4, 13-15, 18-21, have been amended to particularly point out and distinctly claim the subject matter of the invention, though without admitting to the propriety of the Examiner's rejection.

The withdrawal of the rejections under 35 U.S.C. §112, first and second paragraphs is thus respectfully requested.

35 U.S.C. §102 Rejections

Claims 1-3, 16-17

Claims 1-3, 16-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Benayoun et al. (U.S. Patent No. 5,790,608). Applicant respectfully disagrees.

To anticipate a claim, the reference must teach every element of the claim.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Applicant respectfully submits that Benayoun does not anticipate Applicant's independent claims 1 and 16 since Benayoun does not disclose each and every element of independent claims 1 and 16.

For example, independent claim 1 includes:

"a transmitter module at the first location associated with a first clock, the transmitter module comprising a phase detector module operable to generate one or more data bits to indicate phase offset between the first clock and a second clock, ...;

a receiver module at the second location associated with the second clock, ...; ...

wherein said receiver module is operable to determine the transmission rate associated with the first clock at the first location based on the one or more data bits to indicate phase offset and said network link rate." (Claim 1, emphasis added)

Independent claim 16 includes:

*"providing a master clock signal and a network link clock signal;
determining a phase relation between said master clock signal and said network link clock signal; and
re-generating the master clock signal based on the phase relation and the network link clock signal." (Claim 16, emphasis added)*

The Examiner asserts that (Page 8 of the Office Action Mailed June 6, 2007) Benayoun et al. discloses the claimed invention including "the receiver recovers an estimate of the transmission rate as a function of the phase error signal and network link rate". Applicant respectfully disagrees.

1. Benayoun does not disclose "a receiver module operable to determine the transmission rate associated with the first clock at the first location" based on the one or more data bits to indicate phase offset and said network link rate"(Claim 1)

Benayoun discusses synchronizing clock signals for digital links in a packet switching mode. In the system of Benayoun, a phase difference between a reference clock and a second data terminal equipment clock is detected. The phase difference is then sent to a first network node to generate a signal to adjust the phase of the reference clock, the adjusted clock signal is transmitted to the first data terminal equipment (Abstract of Benayoun).

Thus, in Benayoun, the received phase difference is utilized to "adjust the phase of the reference clock". Since the "phase" of a signal is fundamentally different from the "rate" of a signal, Benayoun does not teach or suggest to "determine the transmission rate associated with the first clock" at the first location based on the phase offset and the network link rate, as claimed by applicant in independent claim 1.

For example, in Benayoun:

*"... comparing and detecting a phase difference between said reference clock and said second clock transmitted from said second data terminal equipment; ...
... adjusting the reference clock phase according to the phase difference in order to transmit the corrected clock signal which stands for said first clock signal to the first data terminal equipment" (Col. 3 lines 4-24)*

"the phase difference is transmitted to the VCO (231) which in turn adjusts the phase of the reference clock received from the divider to the phase clock of video codec B in order to transmit adjusted clock signals to the video codec A" (Col. 5 lines 19-22)

Thus, in Benayoun, the phase of the reference clock is adjusted based on a phase difference. Benayoun does not mention determining the rate of a clock signal. Clearly, the discussion of phase adjustment of a clock signal is insufficient to suggest, teach, and/or motivate to "determine the transmission rate associated with the first clock" at the first location based on the phase offset and the network link rate, as claimed by applicant in independent claim 1.

2. Benayoun does not disclose "re-generating the master clock signal based on the phase relation and the network link clock signal"(Claim 16)

As shown, since Benayoun does not mention determining the "rate" of a clock signal in addition to adjusting the "phase" of a clock signal, the system of Benayoun cannot regenerate a signal since a signal requires at least rate information and phase information to be defined. Therefore, Benayoun does not motivate, teach, nor suggest "re-generating the master clock signal based on the phase relation and the network link clock signal", as claimed by applicant in independent claim 16.

Thus, at least for the above reasons, Benayoun does not anticipate Applicant's independent claims 1 and 16. Applicant further submits that the claimed limitations recited in independent claims 1 and 16 are not obvious over Benayoun, and/or the additional art of record.

Since the cited references do not show each and every aspect of the independent claims 1 and 16, the dependent claims 2-3 and 17 of these independent claims are also patentable over the cited references, at least for the above stated reasons. The withdrawal of the rejections is respectfully requested for the claims 1-3 and 16-17.

35 U.S.C. §103(a) Rejections

Claims 4 and 18

The Examiner has rejected Claims 4 and 18 under 35 U.S.C. §103(a) as being unpatentable over Benayou et al., as applied to one of claims 1-3 and 16, respectively, and further in view of Itri (U.S. Patent No. 5,864,592). Applicant respectfully disagrees.

Itri ('592) was cited for the additional limitations recited in the dependent claims 4 and 18. Itri discusses a coordinated timing technique for digital subscriber line transceivers and neither shows the claimed subject matter of, "to determine the transmission rate associated with the first clock" as recited in independent claim 1, nor the claimed subject matter of, "re-generating the master clock signal based on the phase relation and the network link clock signal", as recited by applicant in independent claim 16.

Thus, even if Benayou and Itri were combined, the resulting disclosure would be different from what is claimed by the applicant in claims 4 and 18. The combination would not include the claimed subject matter of, "to determine the transmission rate associated with the first clock" and "re-generating the master clock signal based on the phase relation and the network link clock signal" as claimed by applicant. Thus, without admitting to the propriety of combining Benayou and Itri in a way presented in the Office Action, Applicant submits that dependent claims 4 and 18 are patentable over Benayou, Itri, and over the combination of Benayou, Itri, at least for the above stated reasons.

The withdrawal of the rejections is thus respectfully requested for the claims 4 and 18.

Claims 5 and 8

The Examiner has rejected claims 5-8 and 12 under 35 U.S.C. §103(a) as being unpatentable over Benayou et al. in view of Itri (U.S. Patent No. 5,256,980) and Soe et al. (U.S.

Patent No. 6,351,485 B1). Claims 6-7 and 12 have been cancelled. Applicant respectfully disagrees.

The cited reference does not disclose all the limitations in the independent claim 5

Applicant respectfully submits that when viewed as a whole, the cited references do not show the subject matter recited in the pending claims.

MPEP (2143.03) provides

“To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).”
(Manual of Patent Examining Procedure (MPEP) 2143.03).

The cited references do not show “a phase detector module comprising one or more D flip-flops”

Applicant's independent claim 5 includes claimed subject matter that are not taught nor suggested by the references. Therefore, Applicant's independent claims are patentable over the references. In particular, Applicant's independent claim 5 includes the claimed subject matter of "a phase detector module comprising one or more D flip-flops".

When viewed as a whole, the cited references do not show "a phase detector module comprising one or more D flip-flops".

For example, in claim 5:

5. " *A timing generation module for use in a data communications system, said timing generation module comprising, ...*

a phase detector module comprising one or more D flip-flops, the phase detector module couple-able to the first clock input and the second clock input to generate one or more data bits to indicate a phase offset between the first clock input and the second clock input" (Claim 5, emphasis added)

Benayou was cited for the additional limitations recited in claim 5. Benayou discusses an apparatus and a method for synchronizing clock signals and does not show the claimed subject matter of, "a phase detector module comprising one or more D flip-flops", as recited by applicant in independent claim 5.

Similarly, Itri ('980) was cited for the additional limitations recited in claim 5. Itri discusses a frequency synthesizer incorporating vernier phase adjuster and also does not show the claimed subject matter of, "a phase detector module comprising one or more D flip-flops".

Soe was further cited for the additional limitations recited in the dependent claim 9. Soe discusses a spread spectrum modulation technique and also does not show the claimed subject matter of, "a phase detector module comprising one or more D flip-flops", as claimed in independent claim 5.

Thus, even if Benayou and Itri ('980) were combined, the resulting disclosure would be different from what is claimed by the applicant in claim 5. The combination would not include the subject matter of "a phase detector module comprising one or more D flip-flops", as claimed by applicant. Thus, without admitting to the propriety of combining Benayou and Itri ('980) in a way presented in the Office Action, Applicant submits that independent claim 5 is patentable over Benayou, Itri ('980), Soe, and over the combination of Benayou, Itri ('980), and Soe at least for the above stated reasons.

Since the cited references do not show each and every aspect of the independent claim 5, the dependent claim 8 of the independent claim 5 is also patentable over the cited references, at least for the above stated reasons. The withdrawal of the rejections is respectfully requested for the claims 5 and 8.

Claim 9

The Examiner has rejected claims 9-11 under 35 U.S.C. §103(a) as being unpatentable over Benayou et al. in view of Itri (U.S. Patent No. 5,256,980) and Soe et al. (U.S. Patent No. 6,351,485 B1) as applied to 8, above, and further in view of Itri ('592). Applicant respectfully disagrees. Claims 10-11 have been cancelled.

Itri ('592) was cited for the additional limitations recited in the dependent claim 9. Itri ('592) discusses a coordinated timing technique for digital subscriber line transceivers and also does not show the claimed subject matter of, "a phase detector module comprising one or more D flip-flops". Similarly, Soe was cited for the additional limitations recited in the dependent claim 9. Soe discusses a spread spectrum modulation technique and also does not show the claimed subject matter of, "a phase detector module comprising one or more D flip-flops", as claimed in independent claim 5.

Thus, even if Benayou, Itri ('592), Soe, and Itri ('980) were combined, the resulting disclosure would be different from what is claimed by the applicant in claim 9. The combination would not include the subject matter of "a phase detector module comprising one or more D flip-flops" as claimed by applicant. Thus, without admitting to the propriety of combining Benayou, Itri ('592), Soe, and Itri ('980) in a way presented in the Office Action, applicant submits that dependent claim 9 is patentable over Benayou, Itri ('592), Soe, and Itri ('980) and over the combination of Benayou, Itri ('592), Soe, and Itri ('980) at least for the above stated reasons.

The withdrawal of the rejections is respectfully requested for the claim 9.

Claims 19-20

The Examiner has rejected Claims 19 and 20 under 35 U.S.C. §103(a) as being unpatentable over Benayou et al. as applied to claim 16, and further in view of Itri ('980). Applicant respectfully disagrees.

Itri ('980) was cited for the additional limitations recited in the dependent claims 19-20. Itri discusses a frequency synthesizer incorporating vernier phase adjuster and also does not show the claimed subject matter of, "re-generating the master clock signal based on the phase relation and the network link clock signal", as recited by applicant in independent claim 16.

Thus, even if Benayou and Itri were combined, the resulting disclosure would be different from what is claimed by the Applicant in claims 19-20. The combination would not include the subject matter of "re-generating the master clock signal based on the phase relation and the network link clock signal" as claimed by applicant. Thus, without admitting to the propriety of combining Benayou and Itri ('980) in a way presented in the Office Action, applicant submits that dependent claims 19-20 are patentable over Benayou, Itri, and over the combination of Benayou, Itri, at least for the above stated reasons.

The withdrawal of the rejections is respectfully requested for the claims 19-20.

Claim 21

The Examiner has rejected claim 21 under 35 U.S.C. §103(a) as being unpatentable over Benayou et al. in view of Itri ('980) as applied to claim 19, and further in view of Itri ('592). Applicant respectfully disagrees.

Itri ('592) was cited for the additional limitations recited in the dependent claim 21. Itri discusses a coordinated timing technique for digital subscriber line transceivers and neither shows the claimed subject matter of, "re-generating the master clock signal based on the phase relation and the network link clock signal", as recited by applicant in independent claim 16. Similarly, Itri ('980) was cited for the additional limitations recited in the dependent claim 21. Itri discusses a vernier phase adjuster and also does not show the claimed subject matter of, "re-generating the master clock signal based on the phase relation and the network link clock signal", as recited by applicant in independent claim 16.

Thus, even if Benayou, Itri ('592), and Itri ('980) were combined, the resulting disclosure would be different from what is claimed by the applicant in claim 21. The combination would not "re-generating the master clock signal based on the phase relation and the network link clock signal" as claimed by applicant. Thus, without admitting to the propriety of combining Benayou, Itri ('592), and Itri ('980) in a way presented in the Office Action, Applicant submits that dependent claim 21 is patentable over Benayou, Itri ('592), and Itri ('980) and over the combination of Benayou, Itri ('592), and Itri ('980) at least for the above stated reasons.

The withdrawal of the rejections is respectfully requested for the claim 21.

CONCLUSION

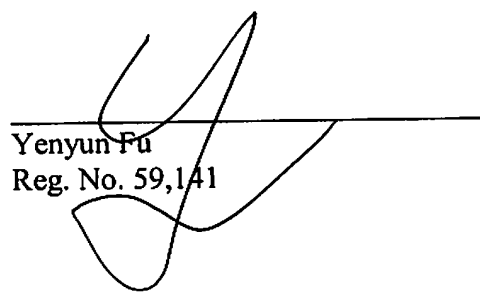
In light of the amendments and the preceding arguments, the applicant respectfully requests that the Examiner withdraw all rejections and issue a Notice of Allowance.

If the Examiner believes that a conference would be of value in expediting the prosecution of this application, he is cordially invited to telephone the undersigned counsel at (650) 838-4328 to arrange for such a conference.

No fees are believed to be due, however, the Commissioner is authorized to charge any underpayment in fees to Deposit Account No. 50-2207.

Respectfully submitted,

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Yenyun Fu
Reg. No. 59,141

Correspondence Address:

Customer No. 22918
Perkins Coie LLP
P.O. Box 2168
Menlo Park, CA 94026-2168
(650) 838-4300